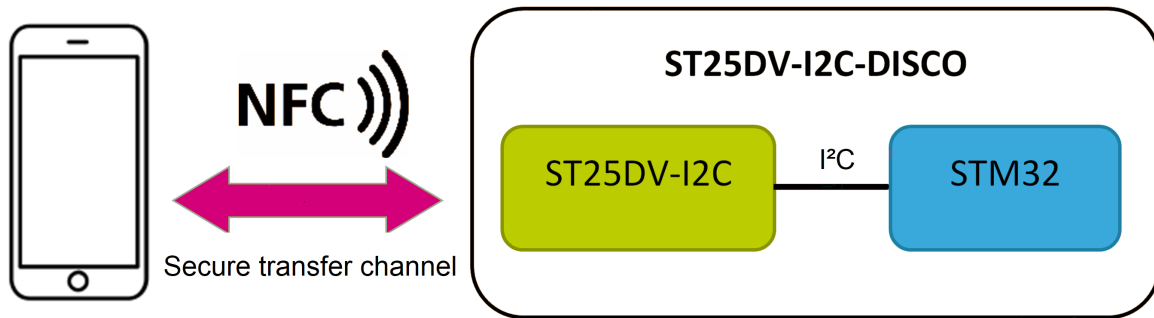


ST25DV-I2C CryptoDemo firmware



Product status link

[STSW-ST25DV003](#)

Features

- Encryption of all NFC bidirectional communications between an Android™ phone and an STM32 microcontroller
- Fast communications over NFC, using ST25DV fast transfer mode
- AES and ECC cryptography
- Mutual authentication between the Android phone and the STM32 microcontroller
- Establishment of a unique AES session key
- Encryption can be used to retrieve data, set device settings or update the firmware securely

Description

The ST25DV-I2C CryptoDemo firmware shows how to establish a secure transfer channel over NFC, between an STM32 microcontroller and an Android smartphone. It uses the fast transfer mode (FTM) feature of the ST25DV-I2C NFC Tag.

The items available for this demonstration are: this firmware ([STSW-ST25DV003](#)), the Android application ([STSW-ST25003](#)), a user manual (UM2575), and application note (AN5323). An [ST25DV-I2C-DISCO](#) board is required to run the demonstration.

This demonstration establishes a secure transfer channel by using cryptography to perform mutual authentication and to encrypt the communications over NFC. This secure transfer channel is used during the demonstration to securely send and retrieve data, perform the device settings, and upload new firmware.

Only the granted user may communicate with the STM32 microcontroller to perform these operations. All the communications are encrypted between the microcontroller and the Android phone in both ways, so that the user can configure the product or retrieve data securely.

1 License

STSW-ST25DV003 is delivered under software license agreement SLA0052.

The software components provided in this package come with different license schemes as shown in Table 1.

Table 1. Software component license agreements

Software component	Owner	License
Cortex®-M CMSIS	Arm®	
Board support package (BSD)	STMicroelectronics	Open source BSD
HAL STM32 L4		
STM32_Cryptographic		Image V2 (object release only)
STM32_Secure_Engine		Ultimate Liberty (source and object release)
LibNDEF		
menu_demo		ST MYLIBERTY
Project application		
LibJPEG		MCD-ST Liberty SW License Agreement V2

STSW-ST25DV003 runs with a 32-bit microcontroller based on the Arm® Cortex®-M4 CPU with FPU high-performance microcontroller.

Note: Arm is a registered trademark of Arm Limited (or its subsidiaries) in the US and/or elsewhere.



Revision history

Table 2. Document revision history

Date	Version	Changes
13-Jun-2019	1	Initial release.

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